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| APPLICATION NO. | FILING DATE | FIRST NAMED INVENTOR | ATTORNEY DOCKET NO. | CONFIRMATION NO. |
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| 09/855,518 | 05/16/2001 | Thinh D. Nguyen | 91436-333 | 9758 |

22463 7590 09/30/2004

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EXAMINER

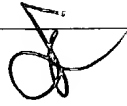
AILES, BENJAMIN A

| ART UNIT | PAPER NUMBER |
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2142

DATE MAILED: 09/30/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

| | | | |
|------------------------------|--------------------------------------|-------------------------------------------------------------------------------------------------------------------------|--|
| Office Action Summary | Application No. 09/855,518 | Applicant(s) NGUYEN ET AL.  | |
| | Examiner Benjamin A Ailes | Art Unit 2142 | |

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 16 May 2001.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-22 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-22 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 16 May 2004 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

1. Claims 1-22 have been examined.

Priority

2. No claim for priority has been made in this application.
3. The effective filing date for the subject matter defined in the pending claims in this application is 05/16/2001.

Drawings

4. The examiner contends that the drawings submitted on 05/16/2001 are acceptable for examination proceedings.

Claim Rejections - 35 USC § 102

5. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

6. Claims 1-4, 6-12, 15-17, 19, and 22 are rejected under 35 U.S.C. 102(b) as being anticipated by Pettus (U.S. Patent Number 6,031,977), hereinafter referred to as Pettus.
7. Regarding claims 1, 10 and 11, Pettus discloses a method of coordinating access to a data network service comprising:
 - Maintaining a registry of a plurality of service providers (col. 10, lines 50-52 and col. 11, line 64 - col. 12, line 4);

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- Receiving a query for a requested data network service from a source (col. 10, lines 26-28), said query including required attributes of said requested data network service (col. 11, lines 28-32).
- Searching said registry to determine whether a given one of said plurality of service providers in said registry can provide said requested data network service have said required attributes (col. 10, line 24 and col. 11, lines 9-15); and
- If said given one of said plurality of service providers in said registry can provide said requested data network service having said required attributes, sending information identifying said given one of said plurality of service providers to said source of said query (col.15, lines 1-5).

8. Regarding claim 2, in accordance with claim 1, Pettus discloses a method if none of said plurality of service providers in said registry can provide said requested data network service having said required attributes,

- Selecting a remote directory service utility (col. 15, lines 19-31); and
- Sending a propagated query to said remote directory service utility (col. 16, lines 13-16).

9. Regarding claim 3, in accordance with claim 2, Pettus discloses a method of consulting a summary of services available as said remote directory service utility...(col. 16, lines 30-39).

10. Regarding claim 4, in accordance with claim 2, Pettus discloses a method of selecting being based on a hierarchical relationship... (col. 10, lines 21-22).

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11. Regarding claim 6, in accordance with claim 1, Pettus discloses the source of said query being a network connected device requiring said data network service (col. 10, lines 25-28).

12. Regarding claim 7, in accordance with claim 1, Pettus discloses a method wherein the source of said query is a directory service utility (col. 14, line 59 – col. 15, line 5).

13. Regarding claim 8, in accordance with claim 1, Pettus discloses a method further comprising:

- Receiving, from a particular service provider, a service description indicating attributes of a provided service (col. 10, line 64 – col. 11, line 16); and
- Adding said particular service provider to said registry (col. 10, line 64 – col. 11, line 4).

14. Regarding claim 9, Pettus discloses a directory service utility comprising:

- A registry of a plurality of service providers (col. 10, lines 50-52 and col. 11, line 64 - col. 12, line 4);
- A processor for searching said registry... (col. 10, line 24, col. 11, lines 9-15, and col. 5, lines 22-24); and

A network interface for:

- Receiving a query for said data network... (col. 10, lines 26-28, col. 11, lines 28-32, and Fig. 4); and
- Sending information identifying... (col.15, lines 1-5 and Fig. 4).

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15. Regarding claim 12, Pettus discloses a method of coordinating access to a data network service comprising:

- Maintaining a registry of a plurality of service providers (col. 10, lines 50-52 and col. 11, line 64 - col. 12, line 4);
- Receiving a propagated query for a requested data network service from a second directory service utility... (col. 10, lines 26-28, col. 11, lines 28-32, and col. 16, lines 30-39);
- Searching said registry to determine whether a given one of said plurality of service providers... (col. 10, line 24 and col. 11, lines 9-15);
- If said given one of said plurality of service providers in said registry can provide said requested data network service having said required attributes,
 - Extracting said source of said initial query... (col.15, lines 1-5);
 - Sending information identifying said given service provider... (col.15, lines 1-5).

16. Regarding claim 15, Pettus discloses a method of registering with a directory service utility comprising:

- Multicasting a message indicating a requirement... (col.11, line 59 – col. 12, line 4);
- Receiving a reply from a given directory service utility (col. 16, lines 36-40); and
- Sending a service description to said given directory service utility (col. 12, lines 5-16).

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17. Regarding claim 16, in accordance with claim 15, Pettus discloses a method wherein a service description includes attributes of a service provided by the service provider (col. 12, lines 5-16).

18. Regarding claim 17, in accordance with claim 16, Pettus discloses a method wherein said attributes include a location of said service provider (col. 12, lines 10-12).

19. Regarding claim 19, Pettus discloses a method of service information propagation at a first directory service utility comprising:

- Creating a summary of information about at least one service provider registered with said first directory service utility (col. 15, lines 6-18); and
- Sending said summary to a second directory service utility (col. 15, lines 6-18).

20. Regarding claim 22, Pettus discloses a method of coordinating access to a data network service comprising:

- Maintaining a registry of a plurality of service providers (col. 10, lines 50-52 and col. 11, line 64 - col. 12, line 4);
- Receiving a query for a requested data network... (col. 10, lines 26-28 and col. 11, lines 28-32);
- Searching said registry to determine whether a given one of said plurality of service providers... (col. 10, line 24 and col. 11, lines 9-15);

If none of said plurality of service providers in said registry can provide said requested data network service having said required attributes,

- Consulting a summary of services available... (col. 15, lines 19-31);

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- Determining that said requested data network service is available...
(col. 15, lines 19-31);
- Sending a propagated query to said particular remote directory service utility... (col. 16, lines 13-16).

Claim Rejections - 35 USC § 103

21. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

22. Claims 5 and 13 are rejected under 35 U.S.C. 103(a) as being unpatentable over Pettus in view of Hemphill et al. (U.S. Patent Number 6,167,448), hereinafter referred to as Hemphill et al.

23. Regarding claim 5, Pettus taught the invention substantially as claimed as noted above. Pettus taught the transmission of a query from client to server (Pettus, col. 10, lines 26-28). Pettus did not expressly teach the use of Extensible Markup Language (XML) to describe the query. However, Hemphill et al. disclose the use of XML in order to represent messages (col. 8, line 66 – col. 9, line 25). Therefore it would have been obvious to one of ordinary skill in the art at the time of applicant's invention to use the XML language used by Hemphill et al. in order to send queries from client to server when requesting data network service.

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24. Regarding claim 13, Pettus discloses a method of registering a service provider comprising:

- Receiving a data network address for said service provider (col. 12, lines 10-12);
- Pettus discloses the receiving of attributes of a service provider, but is silent on how they are expressed. However, Hemphill et al. disclose the use of Extensible Markup Language (XML) in order to express messages. Therefore it would have been obvious to one of ordinary skill in the art at the time of applicant's invention to use the XML language used by Hemphill et al. in order to send attributes of the network service provider.
- Pettus discloses the adding of a service provider to a registry of service providers (col. 11, line 64 – col. 12, line 4).

25. Claim 14 is rejected under 35 U.S.C. 103(a) as being unpatentable over Pettus.

26. Regarding claim 14, in accordance with claim 13, Pettus discloses a method comprising:

- Before said receiving, receiving, from said service provider, a multicast message requiring a directory service utility and indicating attributes of a provided service (col. 11, line 59 – col. 12, line 21); and
- Replying to said message (col. 16, lines 36-40).

27. Claims 18 and 20 are rejected under 35 U.S.C. 103(a) as being unpatentable over Pettus in view of Taylor (U.S. Patent Number 5,664,170), hereinafter referred to as Taylor

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28. Regarding claim 18, Pettus taught the invention substantially as claimed as noted above. Pettus taught the use of directory service utilities but is silent on the use of building network relationships between directory services. However, Taylor discloses the use of developing network relationships between nodes. Taylor discloses the selecting of one node (col. 2, lines 45-47) and assigning this node as the parent directory and indicating said parent directory (col. 2, lines 5-59). One of ordinary skill in the art at the time of applicant's invention would have found it obvious to implement the parent node method disclosed by Taylor in combination with the directory service utilities disclosed by Pettus in order to develop relationships between separate directory service utilities. It is for this reason that one of ordinary skill in the art would have been motivated to combine methods disclosed by Taylor in combination with the directory service utilities disclosed by Pettus.

29. Regarding claim 20, in accordance with claim 19, Pettus discloses the use of directory service utilities, but is silent on how the said directory service utilities are related to one another. However, Taylor discloses the use of assigning certain nodes as parent nodes (col. 2, lines 55-59). One of ordinary skill in the art at the time of applicant's invention would have found it obvious to implement the parent-child method disclosed by Taylor in combination with the directory service utility methods disclosed by Pettus in order to develop relationships between directory service utilities located at different nodes. It is for this reason that one of ordinary skill in the art would have been motivated to combine the

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parent-child methods disclosed by Taylor in combination with the directory service utilities disclosed by Pettus.

30. Claim 21 is rejected under 35 U.S.C. 103(a) as being unpatentable over Pettus in view of Aucsmith (U.S. Patent Number 5,701,464), hereinafter referred to as Aucsmith.

31. Regarding claim 21, Pettus taught the invention substantially as claimed as noted above. Pettus taught the use of sending service provider information from one directory service utility to another but was silent on the use of a bloom filter. However, Aucsmith discloses the use of a bloom filter (see Abstract). One of ordinary skill in the art at the time of applicant's invention would have been motivated to use the bloom filter disclosed by Aucsmith in combination with the service provider information in order to improve computer efficiency.

Conclusion

32. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Patil et al. (U.S. 2002/0120746) discloses a method and system for providing a service.

Hou (U.S. 5,541,986) discloses a method and system for automated telecommunications service script consolidation and downloading.

Mighdoll et al. (U.S. 6,332,157) discloses a method of accessing multiple services from multiple service providers.

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Arnold et al. (U.S. 6,167,449) discloses a system and method for identifying and locating services on multiple heterogeneous networks using a query by type.

Jones (U.S. 5, 802,510) discloses a universal directory service for use with a communication network wherein entities have attributes.

Shen (U.S. 2002/017247) discloses system and method for dynamic routing to service providers.

Beck et al. (U.S. 5,440,739) discloses a method of maintaining updated set-up configurations in workgroups on a network.

Vigil et al. (U.S. 5,758,343) discloses an apparatus and method for integrating multiple delegate directory service agents.

Glitho et al. (U.S. 5,991,803) discloses decoupling service creation environment from service logic execution environment.

Olds (U.S. 5,878,415) discloses controlling access to objects in a hierarchical database.

Mills (U.S. 6,397,219) discloses network based classified information systems.

Ganguly et al. (U.S. 6,345,266) discloses predicate indexing for locating objects in a distributed directory.

Pettus (U.S. 6,360,266) discloses a object-oriented distributed communications directory system.

Rosenberg et al. (U.S. 6,446,108) discloses a method for wide area network service location.

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Graham et al. (U.S. 6,594,700) disclose a system and method for implementing a universal service broker interchange mechanism.

Shteyn (U.S. 6,434,447) discloses a method of control property being mapped as a modally compatible GUI element.

Monachello et al. (U.S. 6,748,439) disclose a system and method for selecting internet service providers from a workstation that is connected to a local area network.

Guerin et al. (U.S. 6,243,754) disclose a dynamic selection of network providers.

Zisapel et al. (U.S. 6,665,702) disclose a method for managing a computer network connected to the Internet through a network connection and load balancing techniques.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Benjamin A. Ailes whose telephone number is 703-305-0447. The examiner can normally be reached on Monday-Friday (7:30-4:00).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Jack Harvey can be reached at (703) 305-9705. The fax phone number for the organization where this application or proceeding is assigned is (703)308-5358.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Communications via Internet e-mail regarding this application, other than those under 35 U.S.C. 132 or which otherwise require a signature, may be used by the applicant and should be addressed to [benjamin.ailles@uspto.gov].

All Internet e-mail communications will be made of record in the application file. PTO employees do not engage in Internet communications where there exists a possibility that sensitive information could be identified or exchanged unless the record includes a properly signed express waiver of the confidentiality requirements of 35 U.S.C. 122. This is more clearly set forth in the Interim Internet Usage Policy published in the Official Gazette of the Patent and Trademark on February 25, 1997 at 1195 OG 89.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to Group receptionist whose telephone number is (703)305-3900.


JACK B. HARVEY
SUPERVISORY PATENT EXAMINER

Benjamin Ailes
Patent Examiner
Art Unit 2142